

**Biology Department  
Publications  
2008**

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Cover: The idea that DNA base pairing could direct the crystallization of useful materials is a tempting one for nanotechnologists. Now - over ten years after it was first shown that DNA attached to nanoparticles can influence their assembly - two groups have put this concept into practice. Park *et al.* demonstrate that the DNA molecules attached to gold nanoparticles, and DNA molecules used to link them, can be selected to ensure that the nanoparticles self-assemble into either face-centred cubic or body-centred cubic crystals. The cover graphic, by Cole Krumbholz, is a close-up of the latter. Nykypanchuk *et al.* identify the requirements for DNA design and the crystallization conditions that allow the reversible formation of body-centred cubic crystals, with nanoparticles occupying just a few percent of a lattice volume. As discussed in News & Views, these developments might make it possible to create ordered and tunable 3D nanoscale architectures relevant for photonic and magnetic applications, biomedical sensing, and information or energy storage.

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